Adolescent Physical Activity: Role of School Support, Role Models and Social Participation in Racial and Income Disparities

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UCLA Center for Health Policy Research
Active Living Research Conference
February 24, 2015
Acknowledgements

- Co-authors
  - Joelle Wolstein & Allison Diamant
- Statistical support
  - Pan Wang
- This research was supported by a grant from The California Endowment
Benefits of Physical Activity

- Regular physical activity among youth has positive benefits for physical and mental health
- Lack of physical activity is associated with weight gain and obesity in youth
- At least 60 minutes of daily PA recommended for youth
Youth Physical Activity

- Having a role model associated with greater levels of PA among youth
- Greater social participation has also been associated with physical activity
- Social support in community settings can promote physical activity, but few studies have focused on social support in the school setting.
Research Objectives

- Examine the association of role models, social participation and support at school with adolescent physical activity
- Determine whether these associations vary by race and income
2011-12 California Health Interview Survey

- Interviews with over 47,000 households
- About 3,000 adolescents
- Interviews performed in five languages: English, Spanish, Korean, Chinese, Vietnamese
- Representative of California population
- Information on health status, health behaviors, and demographic and social characteristics
Outcome: Physical Activity

- In the past 7 days, on how many days were you physically active for at least 60 minutes total per day?
Type of role model – based on two questions

- Is there a person you know or have read about that you admire and would want to be like?
- Is this person a family member, an athlete, an entertainer, a teacher, a friend your own age, or someone else?
Social Participation

- Social participation
  - In the past 12 months, have you done any volunteer work or community service that you have not been paid for?
  - In the past 12 months, did you participate in any clubs or organizations outside of school, other than sports, like the YMCA or Boys or Girls Club?
Support at School

Adolescents rated how true it was that there is a teacher or other adult at school who:

- Really cares about me
- Notices when I’m not there
- Listens to me when I have something to say
- Tells me when I do a good job
- Always wants me to do my best
- Notices when I’m in a bad mood
Support at School

- Responses range from 1 (Not at all true) to 4 (Very much true)
- Responses were summed to create a variable with values ranging from 6 to 24
- Higher values indicate higher levels of support at school
Covariates

- Age
- Gender
- Race/Ethnicity
  - Latino, Asian, African American, American Indian, white, multi-racial
- Household Income (percent of Federal Poverty Level)
  - Below 100% FPL, 100-299% FPL, 300% FPL and above
Analyses

- Sample included 2,799 adolescents
- Linear Regression Analyses examining relationship between physical activity and key predictors (role model, social participation, support at school)
- Regression analyses stratified by income and race/ethnicity
Adolescent Population

- 14.6 years old
- 49% female
- 32% Latino, 13% Asian, 5% African American, 34% white
- 22% below the poverty line
- 3.6 days with at least 60 min of PA
- 63% have a role model
- School support average score – 19.8
Physical Activity Varied by Race & Income

Days with 60+ min PA by race/ethnicity

- Latino: 3.4
- Asian: 3.4
- African American: 3.5
- White: 4.0

Days with 60+ min PA by income

- 0-99% FPL: 3.2
- 100-299% FPL: 3.5
- 300% FPL and above: 3.9
Multivariate Regression – Days of PA

- Adolescents with more days of PA
  - Volunteered in past year
  - Participated in organizations outside school
  - More support at school
  - Reported having an athlete as a role model
## Days of PA – Stratified by Race

<table>
<thead>
<tr>
<th>Variable</th>
<th>Latino</th>
<th>African American</th>
<th>Asian</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer Work in Past Year</td>
<td>0.26</td>
<td>0.86</td>
<td>0.31</td>
<td>0.34*</td>
</tr>
<tr>
<td>Organizations Outside School</td>
<td>0.41</td>
<td>0.28</td>
<td>0.42</td>
<td>0.08</td>
</tr>
<tr>
<td>School Support</td>
<td>0.08*</td>
<td>0.18*</td>
<td>0.02</td>
<td>0.005</td>
</tr>
<tr>
<td>Type of Role Model (none is ref)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>-0.43</td>
<td>-0.09</td>
<td>1.09*</td>
<td>-0.04</td>
</tr>
<tr>
<td>Athlete</td>
<td>1.00*</td>
<td>0.36</td>
<td>0.61</td>
<td>0.78*</td>
</tr>
<tr>
<td>Entertainer</td>
<td>-0.21</td>
<td>-0.50</td>
<td>-0.82</td>
<td>-0.12</td>
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<tr>
<td>Teacher</td>
<td>0.97*</td>
<td>0.01</td>
<td>0.70</td>
<td>-0.01</td>
</tr>
<tr>
<td>Friend</td>
<td>0.69</td>
<td>-3.31*</td>
<td>1.57</td>
<td>-0.18</td>
</tr>
</tbody>
</table>

Models also adjusted for age, gender, income

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## Days of PA – Stratified by Income

<table>
<thead>
<tr>
<th>Variable</th>
<th>Below 100% FPL</th>
<th>100-299%</th>
<th>300% and above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteer Work in Past Year</td>
<td>0.58*</td>
<td>0.19</td>
<td>0.14</td>
</tr>
<tr>
<td>Organizations Outside School</td>
<td>0.70</td>
<td>0.41</td>
<td>0.29</td>
</tr>
<tr>
<td>School Support</td>
<td>0.07*</td>
<td>0.06</td>
<td>0.07*</td>
</tr>
<tr>
<td>Type of Role Model (none is ref)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family member</td>
<td>-0.06</td>
<td>0.14</td>
<td>0.14</td>
</tr>
<tr>
<td>Athlete</td>
<td>0.85</td>
<td>0.74*</td>
<td>0.81*</td>
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<tr>
<td>Entertainer</td>
<td>-0.43</td>
<td>-0.99*</td>
<td>0.25</td>
</tr>
<tr>
<td>Teacher</td>
<td>0.17</td>
<td>0.21</td>
<td>-0.07</td>
</tr>
<tr>
<td>Friend</td>
<td>0.17</td>
<td>0.69</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Models also adjusted for age, gender, race
Social participation, feeling supported at school and having a role model are positively associated with adolescent PA. These relationships varied by race and income.
Study Limitations

- Self-report measure of physical activity
- Cross-sectional research
  - Causality and direction of relationship
Conclusions & Implications

- Different strategies promoting physical activity may be needed to impact all groups and help reduce disparities
- Strengthening social support at school among Latino, African-American, and low-income youth may help promote physical activity for these groups
Thank you!

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